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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,915	04/12/2001	Wayne L. Hutchinson	8599	3838
26890	7590	11/20/2003	EXAMINER	
JAMES M. STOVER NCR CORPORATION 1700 SOUTH PATTERSON BLVD, WHQ4 DAYTON, OH 45479			EHICHOYA, FRED I	
			ART UNIT	PAPER NUMBER
			2172	

DATE MAILED: 11/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/833,915	HUTCHINSON, WAYNE L.
	Examiner	Art Unit
	Fred I. Ehichioya	2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 25 August 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1 - 20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____ .
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . 6) Other: _____ .

DETAILED ACTION

1. Response to communication filed August 25, 2003.
2. Claims 1 – 20 are pending in this office action.
3. Applicant amends claims 1 – 2, 8 – 11, and 16

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 1 – 3, 5 – 6, 8, 9, 11, and 15 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,845,273 issued to Ajay Kumar Jindal (hereinafter “Jindal”) in view of U.S. Patent 5,926,816 issued to Jonathan A. Bauer et al (hereinafter “Bauer”).

Regarding claims 1 and 8, Jindal teaches a method of dynamically configuring a cardinality of keyword attributes having executable instructions, comprising the steps of: receiving a table having a table schema comprising an identification field, a keyword field, and a keyword value field (see column 3, lines 20 - 30)

inserting a first value into the table wherein the first value is part of the keyword value field and associated with a first keyword which is part of the keyword field (see column 13, lines 66 – 67; column 20, lines 12 – 22 and Fig. 10).

inserting a second value into the table wherein the second value is part of the keyword value field and associated with the first keyword (see column 14, lines 1 – 4; column 20, lines 22 – 25); and

associating a first identification which is part of the identification field with the first keyword, the first value, and the second value (see column 15, lines 62 – 65).

Jindal does not explicitly teach table schema.

However, Bauer teaches table schema (see column 8, lines 40 – 44)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Bauer with the teaching of Jindal wherein table schema is a diagrammatic representation of table objects. The motivation is that the table schema outlines the structured framework of the database.

Regarding claim 2, Bauer teaches ensuring the table schema remains unchanged after the insertions into the table (see column 16, lines 36 - 45).

Regarding claim 3, Jindal teaches establishing a first row of the table to house the first identification, the first keyword, and the first value (see Fig.10 step 1012 and column 20, lines 12 - 22) and

establishing a second row of the table to house the first identification, the first keyword, and the second value (see Fig.10 step 1012 and column 20, lines 22 - 25).

Regarding claim 5, Jindal teaches the fields of the table are operable to be searched (see column 20, lines 29 – 36).

Regarding claim 6, Jindal teaches the first value is not equal to the second value (see column 20, lines 59 - 64).

Regarding claim 9, Jindal teaches creating a first table entry in a table defined by the table schema for the first keyword and the first value (see Fig.10 step 1012 and column 20, lines 12 – 22); and

creating a second table entry in the table defined by the table definition for the first keyword and the second value (see Fig.10 step 1012 and column 20, lines 22 - 25).

Jindal does not explicitly teach table schema.

However, Bauer teaches table schema (see column 8, lines 40 – 44)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Bauer with the teaching of Jindal wherein table schema is a diagrammatic representation of table objects. The motivation is that the table schema outlines the structured framework of the database.

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Regarding claim 11, Hoover teaches creating a first and second table from the table schema (see column 11, lines 51 - 67);

inserting a first identification, the first keyword, and the first value into the first table (see column 14, lines 1 – 20 “core keyword list is the first table”);

inserting the first identification, the first keyword, and the first value into the Second table (see column 11, lines 51 – 54 “virtual keyword list is the second table”);

and inserting the first identification, the first keyword, and the second value into the second table (see column 13, lines 49 - 67).

Jindal does not explicitly teach table schema.

However, Bauer teaches table schema (see column 8, lines 40 – 44)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Bauer with the teaching of Jindal wherein table schema is a diagrammatic representation of table objects. The motivation is that the table schema outlines the structured framework of the database.

Regarding claim 15, Jindal teaches creating a first and a second row of a table to house the first and the second values, respectively, each row housing the first identification and the first keyword (see column 17, lines 3 - 8).

Regarding claim 16, Jindal teaches a method of expanding a keyword by permitting one or more keyword values to be associated with each keyword having executable instructions, comprising the steps of:

receiving a table having an identification field, a keyword field, and a keyword value field, wherein the table includes a table schema (see column 13, lines 49 - 53); and receiving a first keyword associated with the keyword field and having a first value and a second value, each value associated with the keyword value field (see column 14, lines 61 – 67 and column 15, lines 1 – 6).

Jindal does not explicitly teach table schema.

However, Bauer teaches table schema (see column 8, lines 40 – 44)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Bauer with the teaching of Jindal wherein table schema is a diagrammatic representation of table objects. The motivation is that the table schema outlines the structured framework of the database.

6. Claims 4, 10, and 17 - 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jindal in view of Bauer and further in view of U.S. Patent 6,581,062 issued to Denise L. Draper et al (hereinafter “Draper”).

Regarding claim 4, Jindal and Bauer teach the claimed subject matter as discussed in claim 1. Jindal or Bauer does not explicitly teach creating a composite table key from the, identification field, the keyword field, and the keyword value field.

Draper teaches creating a composite table key from the, identification field, the keyword field, and the keyword value field (see column 6, lines 39 - 56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Draper with the teaching of Jindal and Bauer wherein composite key consists two or more fields in a table. The motivation is that the composite key allows two or more tables to be merged and searched.

Regarding claim 10, Jindal and Bauer teach the claimed subject matter as discussed in claim 8. Bauer teaches table schema (see column 8, lines 40 – 44).

Jindal or Bauer does not explicitly teach creating a composite key using each field of the table schema wherein the key is operable to access a table associated with the table schema.

Draper teaches creating a composite key using each field of the table schema wherein the key is operable to access a table associated with the table schema (see column 6, lines 40 - 56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Draper with the teaching of Jindal and Bauer wherein composite key consists two or more fields in a table and table schema is a diagrammatic representation of table objects. The motivation is that the composite key allows two or more tables to be merged and searched.

Regarding claim 17, Draper teaches creating a key to access the table wherein the key is comprised of the identification field, the keyword field, and the keyword value field (see column 6, lines 46 - 50).

Regarding claim 18, Jindal teaches searching a second table with the key to acquire a location within the table to begin a search (see column 4, lines 66 - 67).

Regarding claim 19, Jindal teaches a performance of the search of the table is improved using the location and the key (see column 4, lines 60 - 61).

Regarding claim 20, Jindal teaches returning a row associated with the table when the key is found within the table (see column 4, lines 40 - 44).

7. Claims 7, and 12 - 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jindal in view of Bauer and further in view of U.S. Patent 5,560,005 issued to Michael K. Hoover et al (hereafter "Hoover").

Regarding claim 7, Jindal and Bauer teach the claimed subject matter as discussed in claim 1. Jindal or Bauer does not explicitly teach a cardinality between the keyword field and the keyword value field is a one-to-many relationship.

Hoover teaches a cardinality between the keyword field and the keyword value field is a one-to-many relationship (see column 19, lines 27 – 35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Hoover with the teaching of Jindal and Bauer wherein keyword field and the keyword value field has a one-to-many

relationship. The motivation is that one-to-many relationship allows the keyword to be assigned to multiple values.

Regarding claim 12, Jindal and Bauer teach the claimed subject matter as discussed in claim 8. Jindal or Bauer does not explicitly teach searching the first table and second table.

Hoover teaches receiving a search comprising the first identification, the first keyword and the second value (see column 30, lines 46 – 47);

searching the first table to acquire a first location (see column 30, lines 47 – 51 and column 33, lines 15 – 17); and

searching the second table beginning at the first location within the second table until the second value is located (see column 30, lines 52 – 56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Hoover with the teaching of Jindal and Bauer wherein the tables are searched based on the identification and keyword. One table relates object identifiers to other object attribute tables. The motivation is that since attributes of an object can exist in one or more remote locations, mapping table by object identifier permits assembly or joining of data to construct a current complete set of object attributes associated with any given object. This permits search terms to object identifiers and also to rapid searching to find an object identifier associated with the predetermined search terms while at the same time retrieving desired information.

Regarding claim 13, Hoover teaches returning a row of the second table wherein the second value is housed (see column 30, lines 57 – 60).

Regarding claim 14, Hoover teaches searching the first table improves access into the second table to retrieve the row (see column 25, lines 30 – 47).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred I. Ehichioya whose telephone number is 703-305-8039. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on 703-305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-303-3900.

Fred Ehichioya
Patent Examiner
November 15, 2003



SHAHID ALAM
PRIMARY EXAMINER